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Sir:

Transmitted herewith for filing is the patent application of

Inventor: Bruce A. Donoho

for: UNITARY CONFIGURED BIRD REPELLENT APPARATUS

Enclosed are:

- ☒ 3 informal sheets of drawing.
- ☐ An assignment of the invention to _____
- ☐ A certified copy of a _____ application.
- ☐ An associate power of attorney.
- ☒ A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27.
- ☒

The filing fee has been calculated as shown below:

	(Col. 1)	(Col. 2)
FOR:	NO. FILED	NO. EXTRA
BASIC FEE		
TOTAL CLAIMS	8 -20=	0
INDEP CLAIMS	1 -3=	0
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED		

* If the difference in Col. 1 is less than zero, enter "0" in Col. 2

SMALL ENTITY

RATE	FEE
	\$ 380.
\$9	0
\$39	0
\$130	0
TOTAL	\$ 380.00

OTHER THAN A
SMALL ENTITY

RATE	FEE
	\$ 760
\$18	\$
\$78	\$
\$260	\$
TOTAL	\$

- ☐ Please charge my Deposit Account No. 06-0930 in the amount of \$_____. A duplicate copy of this sheet is enclosed.
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- ☐ Any patent application processing fees under 37 CFR 1.17.
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- ☐ Any filing fees under 37 CFR 1.16 for presentation of extra claims.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks.

Washington, D.C. 20231, on 5/19/99
(Date of Deposit)

LEONARD TACHNER

Name of Applicant, Assignee, or Registered Rep.

Signature

Date

Respectfully submitted,

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09/31/303
05/24/99

Applicant or Patentee: BRUCE A. DONOHO Attorney's
Serial or Patent No.: UNKNOWN Docket No.: DONO-7
Filed or Issued: UNKNOWN
For: UNITARY CONFIGURED BIRD REPELLENT APPARATUS

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled UNITARY CONFIGURED BIRD REPELLENT APPARATUS described in

☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern, or organization
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

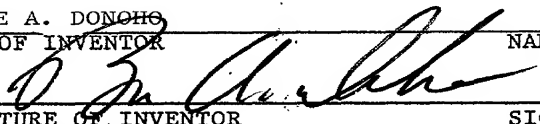
FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

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FULL NAME _____
ADDRESS _____
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I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

BRUCE A. DONOHO
NAME OF INVENTOR _____ NAME OF INVENTOR _____ NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____ SIGNATURE OF INVENTOR _____ SIGNATURE OF INVENTOR _____
4/21/99
DATE _____ DATE _____ DATE _____

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates generally to devices for preventing birds from landing or perching on selected surfaces, and more specifically to a bird repellent apparatus that comprises a base member and integral prongs preferably made out of injection molded plastic for simple and low cost manufacture and easy installation on virtually any surface to which access to birds is to be denied.

PRIOR ART

The presence of birds on window sills, roof tops, boat masts and covers and the like is often undesirable. Bird droppings attract insects and provide a fertile bed for bacteria which can present a significant health hazard. Additionally, the unaesthetic appearance of bird droppings and the like often requires the task of unpleasant and time consuming clean up where access to the droppings is available. Often times the repulsive appearance of bird droppings and other by-products of birds is not even accessible for clean up.

The use of a plurality of pointed objects, such as spikes and the like, mounted on surfaces where it is desired to repel birds is not unknown. However, heretofore the typical bird repellent apparatus comprises a metal base having a plurality of angularly and upwardly projecting metal wires or spikes. Unfortunately, such metal contraptions, while accomplishing the desired result, tend to be costly to manufacture because they are not conducive to non-labor intensive manufacturing processes such as injection molding for example. Perhaps most importantly, they tend to be relatively expensive, which inherently limit their use.

1 There is a need therefore for a bird repellent apparatus which is easy and less costly
2 to manufacture and which is relatively inexpensive to the user, thereby facilitating its
3 use in larger numbers for avoiding the aforementioned problems of insect and bacteria
4 infestation and unaesthetic appearance of the droppings and other waste products
5 birds leave in their wake.

6
7 Until the issuance of the applicant's prior patent, namely U.S. Patent No. 5,253,444,
8 the typical bird repellent apparatus comprised a metal base having a plurality of
9 angularly and upwardly projecting metal wires or spikes. Unfortunately, such metal
10 contraptions, while accomplishing the desired result, tend to be costly to manufacture
11 because they are not conducive to non-labor intensive manufacturing processes such
12 as injection molding for example. Most importantly, they tend to be relatively
13 expensive, which inherently limits their use. The disadvantages of such prior art was
14 addressed in the applicant's prior disclosure in the aforementioned patent, relating to a
15 bird repellent apparatus comprising a base member and a plurality of top members,
16 each of which holds a plurality of prongs. All of the components of the applicant's prior
17 invention can preferably be made of an injection molded plastic which can be cheaply
18 manufactured in large numbers with virtually no significant labor costs. The use of
19 injection molded plastics not only reduces the cost of manufacture and thus the cost to
20 the user, but also provides the opportunity to manufacture the product in a variety of
21 different colors, some of which may be selected to blend in with the color of the
22 underlying surface and some of which may be purposely selected to provide an
23 aesthetically pleasing and distinctive appearance. In any case, the applicant's prior
24 invention provides an efficient, effective apparatus for repelling birds from surfaces,
25 such as window sills, roof tops, boat masts, boat covers and the like, while overcoming
26 the disadvantages of the prior art devices. However, the need for separate base
27 members, top members and prongs, makes for a more costly apparatus because of the
28 need for separate manufacture of the various components and assembly of such
29 components. Moreover, that prior art configuration is inherently more difficult to install

- 1 and is inherently less durable because of having a plurality of separate components.
- 2 Thus, there is a continuing need for a unitary apparatus which is easier to manufacture
- 3 and install and which is more durable and lower in cost.
- 4

SUMMARY OF THE INVENTION

The aforementioned need is satisfied by the present invention which provides significant advantages over the aforementioned prior art. More specifically, the present invention comprises a bird repellent apparatus having an integral base member and a plurality of prongs preferably made of an injection molded plastic which can be cheaply manufactured in large numbers with virtually no significant labor costs. The base member, by means of a plurality of tabs having holes for receiving screws or other fasteners, can be affixed to virtually any desired surface. The plurality of prongs with sharp tips presents an impossible barrier to birds that would otherwise land or perch on the surface to which the present invention is affixed. The use of a unitary, integral injection molded plastic structure, not only reduces the manufacture cost and thus the cost to the user, but also provides the opportunity to manufacture the product in a variety of different colors, some of which may be selected to blend in with the color of the underlying surface and some of which may be purposely selected to provide an aesthetically pleasing and distinctive appearance. In either case, it can be seen that the present invention provides an efficient and effective apparatus for repelling birds from surfaces such as window sills, roof tops, boat masts and boat cover and the like, while overcoming the previously described disadvantages of the prior art.

OBJECTS OF THE INVENTION

It is therefore a principal object of the present invention to provide a bird repellent apparatus for installation on selected surfaces for preventing birds from landing or perching thereon and which overcomes the disadvantages of the prior art.

It is an additional object of the present invention to provide a bird repellent apparatus made entirely of low cost plastic.

It is still an additional object of the present invention to provide a bird repellent apparatus of the type having a plurality of sharp-tipped prongs to prevent birds from landing or perching upon selected surfaces, the apparatus having an integral base member.

It is still an additional object of the present invention to provide a bird repellent apparatus comprising an injection molded or extruded plastic base member and a plurality of sharp-tipped prongs, the base member and prongs all being integrally formed to provide a unitary structure.

It is yet an additional object of the invention to provide a unitary plastic bird repellent apparatus having installation enhancement features including break point grooves for easy cutting, a glue trough for adhering the apparatus to hard surfaces and molded screw holes for attachment to wood surfaces and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

The aforementioned objects and advantages of the present invention, as well as additional objects and advantages thereof will be more fully understood hereinafter as a result of a detailed description of a preferred embodiment when taken in conjunction with the following drawings in which:

FIG. 1 is a three-dimensional illustration of the present invention shown ready for installation on an exterior window sill adjacent a window frame or other suitable surface;

FIG. 2 is a plan view of the present invention;

FIG. 3 is a side view of the present invention;

FIG. 4 is a cross-sectional view of the invention taken along lines 4-4 of FIG. 2; and

FIGS. 5, 6 and 7 are cross-sectional views of various elements of the invention taken along lines 5-5, 6-6 and 7-7 of FIG. 4.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to FIGs. 1 and 2, it will be seen that the bird repellent apparatus 10 of the present invention comprises a base member 12 and a plurality of prongs 14. Each such prong terminates in a sharp tip 16. The base member 12 provides a rail 15 from which extends integrally therefrom the prongs 14 along the full length of base member 12. A plurality of flanges 18 each has a hole 20 and extends in opposed directions away from the rail 15. Each hole 20 is adapted to receive a screw for connecting the base member 12 to an underlying surface such as a window sill. A notch 19 provides a convenient cutting line at various locations along the base member 12 to permit length selection at the installation site.

The prongs 14 are provided at various angles relative to the underlying surface. As shown best in FIG. 3, prongs 22 are oriented at 90 degrees relative to the underlying surface, prongs 26 and 30 are oriented at about 30 degrees above the underlying surface and prongs 24 and 28 are oriented at about 70 degrees above the underlying surface. Moreover, prongs 26 and 30 are on opposed sides of the rail 15 as are prongs 24 and 28. As shown in FIGs. 1 and 2, this orientation of the prongs forms a repetitive pattern along the length of base member 12. As shown best in FIG. 3, a glue trough 17 permits neat glue application for installation on hard surfaces such as concrete brick and steel.

As shown in FIGs. 4-7, the cross-section of the prongs where they connect to rail 15 is "T"-shaped as shown in FIG. 5. The cross-section of the prongs along their major length is cross-shaped as shown in FIG. 6 and the cross-section of the prongs close to their pointed ends 16 is circular as shown in FIG. 7.

1 A key feature of the present invention is the unitary structure of the entire bird
2 repellent apparatus shown in FIGs. 1 and 2. This feature permits the disclosed
3 embodiment to be fabricated as a single injection-molded plastic member obviating any
4 further assembly before installation on an underlying surface. This unique unitary
5 design reduces fabrication costs and simplifies installation as well.

6
7 Having thus disclosed an exemplary embodiment, it being understood that other
8 configurations are contemplated as being within the scope hereof, what is claimed is:

9

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CLAIMS

1. An apparatus comprising:

an elongated base member for attachment to an underlying surface; and

a plurality of elongated prongs extending integrally from said base member at selected spaced intervals along the length of said base member.

2. The apparatus recited in claim 1 wherein said base member and said prongs are made of a unitary injection -molded plastic structure.

3. The apparatus recited in claim 1 further comprising means for securing said base member to said underlying surface.

4. The apparatus recited in claim 1 wherein each said prong comprises an elongated circular cylinder having an integral conical tip.

5. The apparatus recited in claim 1 wherein said elongated prongs extend from said base member at predetermined angles along the length of said base member.

6. The apparatus recited in claim 5 wherein said predetermined angles are ninety degrees for a first group of said prongs, less than 45 degrees for a second group of said prongs and more than 45 degrees for a third group of said prongs.

7. The apparatus recited in claim 1 wherein said base member comprises at least one cutting groove to facilitate length selection.

8. The apparatus recited in claim 1 where said base member comprises at least one glue trough for receiving glue to adhere said base member to a hard underlying surface.

DONO-7

UNITARY CONFIGURED BIRD REPELLENT APPARATUS

ABSTRACT OF THE DISCLOSURE

A bird repellent apparatus having an integral base member and a plurality of prongs. The base member, by means of a plurality of tabs having holes for receiving screws or other fasteners, can be affixed to virtually any desired surface. The plurality of prongs with sharp tips presents an impossible barrier to birds that would otherwise land or perch on the surface to which the present invention is affixed. The combined base member and prongs are formed from injection molded plastic structure that also provide the tabs having holes to secure the base member to the underlying surface.

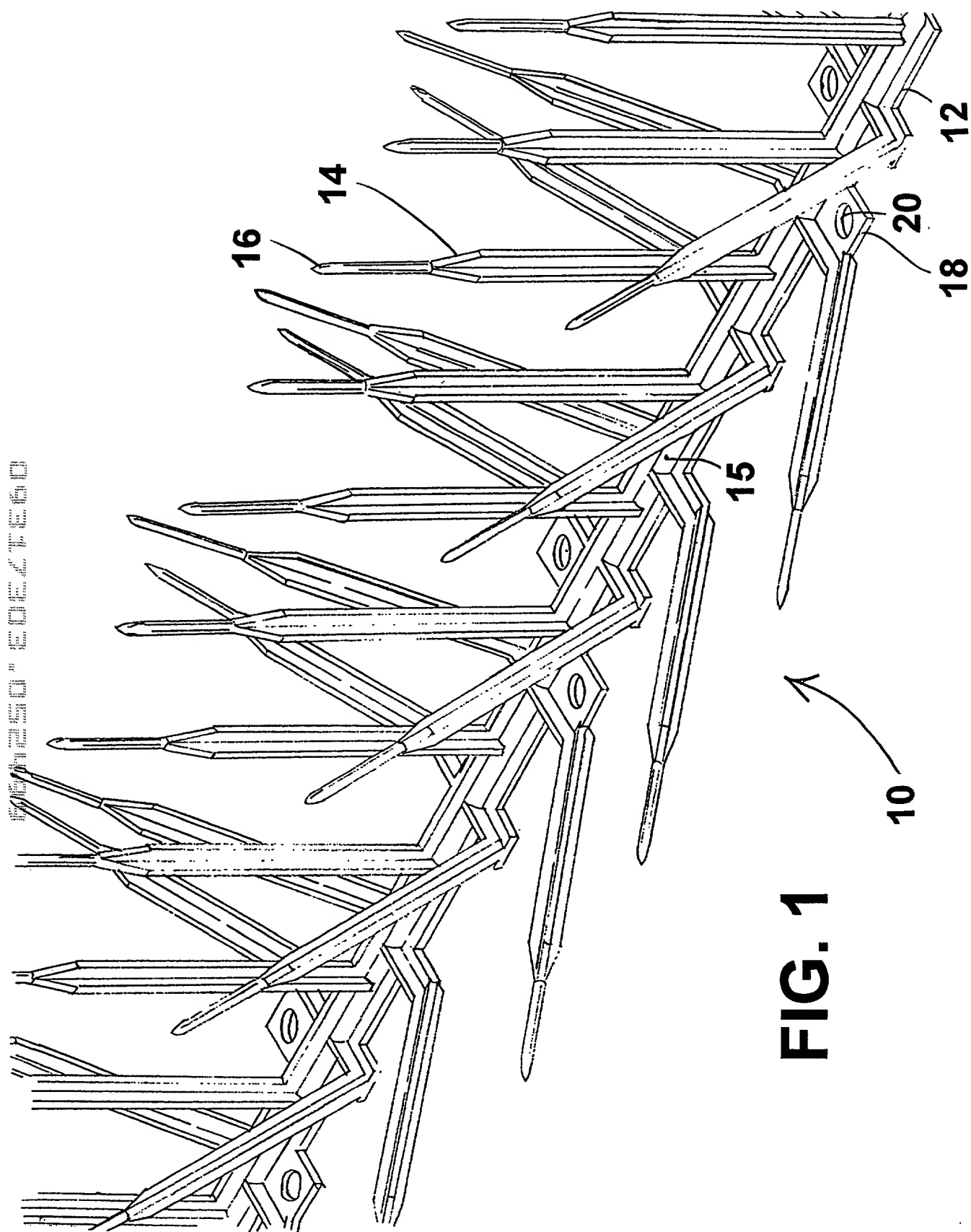


FIG. 1

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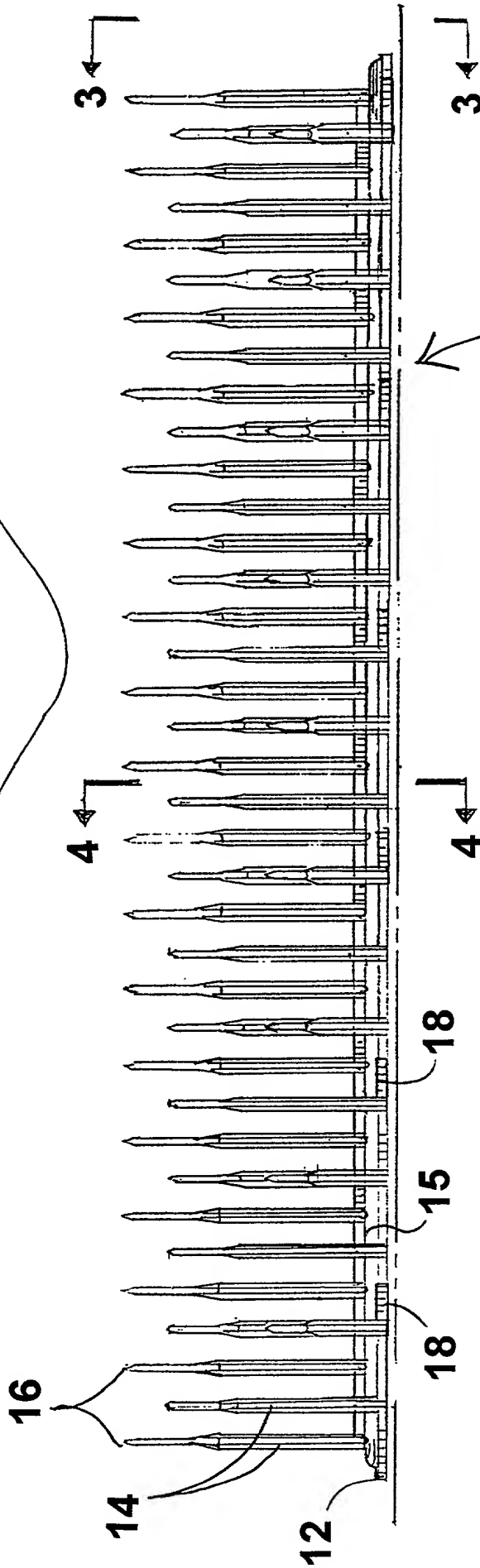
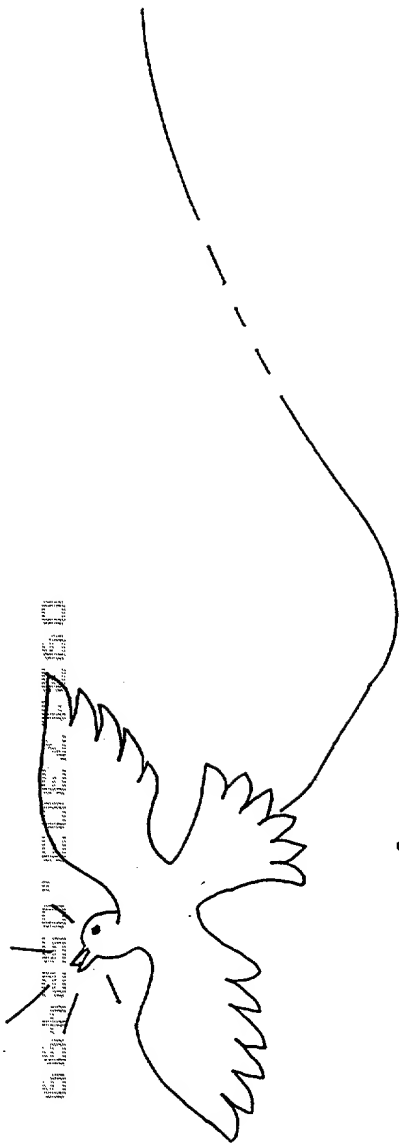


FIG. 2

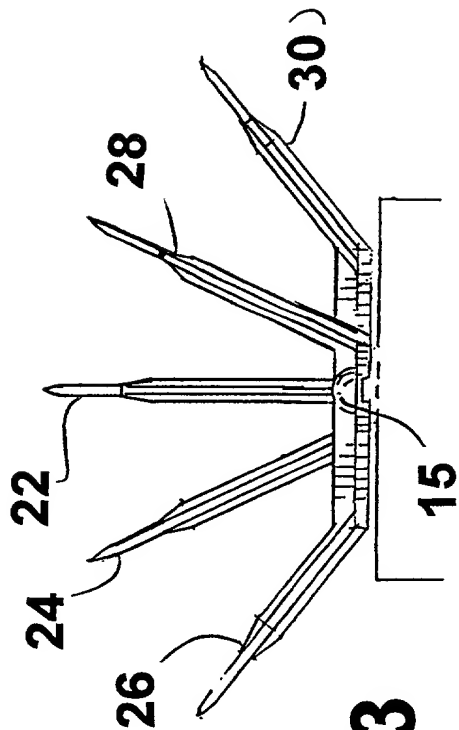


FIG. 3

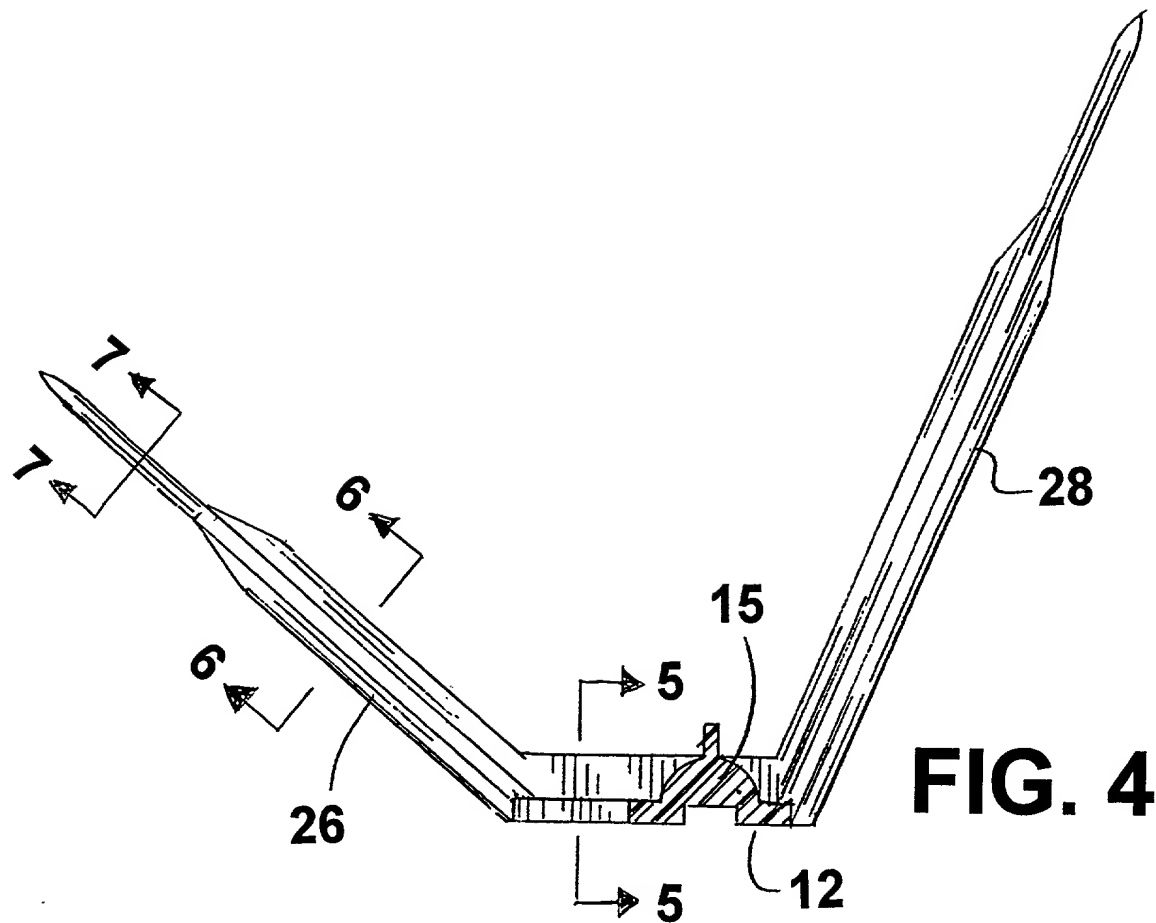


FIG. 4

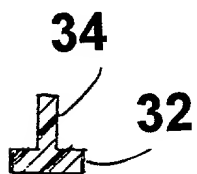


FIG. 5

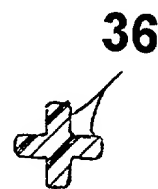


FIG. 6



FIG. 7

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

UNITARY CONFIGURED BIRD REPELLENT APPARATUS

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as

Application Serial No. _____

and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: NONE

English Language Declaration

Prior Foreign Application(s)

Priority Claimed

(Number) (Country) (Day/Month/Year Filed)

☐
Yes

☐
No

(Number) (Country) (Day/Month/Year Filed)

☐
Yes

☐
No

(Number) (Country) (Day/Month/Year Filed)

☐
Yes

☐
No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code; §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

(Application Serial No.)

(Filing Date)

(Status)
(patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

English Language Declaration

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (list name and registration number)

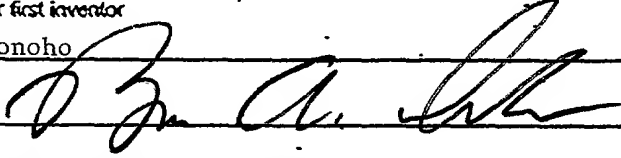
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Inventor's signature	Date
	4/21/99
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Full name of second joint inventor, if any	
Second inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

(Supply similar information and signature for third and subsequent joint inventors.)